mean that changes of pressure only require to be taken account of in the very exact instrumental observations carried out in first-class observatories. It is also important that a respectable weathercock should be in sight, for the direction of the wind exercises, as is well known, a potent influence on the condition of the air, as revealed by the scrutiny of a celestial object through a telescope.

A good "Six's" thermometer is quite good enough for general purposes, although not a self-registering instrument of the highest scientific precision. As a hygrometer, "Mason's wet-and-dry-bulb" instrument leaves nothing to be desired.

The one special precaution of a meteorological character to be taken in connection with all astronomical observations, whether made in an observatory or in the open air, is that equality of temperature should be secured everywhere. Whilst the due ventilation of the observatory should at all times be provided for, it is absolutely essential, in order to insure good results with every kind of instrument, that all doors and windows should be thrown open, so as to obtain a free current of air everywhere for fully half an hour before observations are to be begun; in hot summer weather, indeed, a longer time will generally be found necessary. The object of these precautions is obvious enough: it is to insure the inside air and the metal of the instruments being cooled down (or, as it may sometimes happen, being warmed up) to the temperature of the external air. In order to learn whether this equality exists, every observatory should have a thermometer outside as well as inside. The former should be hung on the north side, away from the sun, and, if possible, not actually in contact with the observatory itself.

G. F. CHAMBERS

(*To be continued.*)

NOTES

WE learn with much pleasure from *Science* the election of Prof. E. S. Holden to be President of the University of California, and Director of the Lick Observatory. Prof. Holden's resignation as Director of the Washburn Observatory at Madison, Wis., takes effect on January 1 next. His appointment as Director of the Lick Observatory will hardly be a matter of surprise to those who are aware that, as consulting astronomer, he has virtually had the direction of the work as it has progressed, visiting the site on Mount Hamilton in 1881, and again in 1883 and 1884. Very happily the choice both of the Lick trustees and of the regents of the University has fallen upon Prof. Holden. It is understood that, in his letter of resignation to the regents of the University of Wisconsin, he strongly urges the name of Prof. W. A. Rogers, of Harvard College Observatory, as his successor.

THE wealthy American, Senator Stanford, proposes to establish a Californian University. He intends to give to it, besides estates worth 5,300,000 dollars, a donation in money increasing its endowments to 20,000,000 dollars. The University will be located at Palo-Alto, thirty miles from San Francisco, and is apparently to be modelled somewhat after the plan of the Johns Hopkins institution.

THE prospectus has been issued by Herr Fischer, publisher, of Jena, of a new scientific periodal entitled *Zoologische Jarhbücher: Zeitschrift für Systematik Geographie und Biologie der Thiere*, which is to be brought out under the editorship of Dr. J. W. Sprengel, of Bremen. Notwithstanding the vast number of scientific journals, both author and publisher think that this department of science does not receive the attention which it deserves. It is not excluded, they say, from scientific periodicals; but communications relating to it appear more or less as strangers by the side of others. The new periodical will be wholly devoted to this class of subjects. In the first section the papers will, for the most part, be of a higher kind than the mere description of new species, except those for which no special journal exists. The geographical section will contain studies on the distribution of all kinds of animal and vegetable life, and special attention is promised to the biological section. Contributions will be received in German, French, English, and Latin. The periodical will appear quarterly, each four issues making a volume.

THE success of the last electrical exhibition at the Paris Observatory was so complete that the International Society of Electricians is preparing another for next spring.

A GENERAL meeting of members of the French Association for the Advancement of Science has been summoned to approve of the fusion with the Société Française. Lectures and meetings will take place this year under the patronage of the united societies as a single body.

THE well-known electrician, Dr. James Moser, who was working for some time at Prof. Guthrie's laboratory, has been appointed as *privatdocent* at Vienna University.

THE Colonial fisheries are to form a prominent feature at the Indian and Colonial Exhibition which is to be held next year. The Aquarium will be considerably enlarged, and special tanks are now being prepared for the reception of the various fish from the Colonies. A tank of colossal proportions is to be allotted for the purpose of exhibiting turtles in large numbers which will be despatched from India together with other specimens in the early part of next year. We do not yet know what fish are to be forwarded from the various colonies, but the utmost care will have to be exercised and the most perfect arrangements made in order to provide for their various necessities. The collection promises to be one of great interest and value, although its success all depends upon how the fish withstand the long journeys to which they will be subjected.

TOWARDS the end of October the remarkable sun-glows were again seen at Stockholm. In the western horizon a yellow cloud-bank, strongly illuminated, appeared behind a number of tiny clouds, greyish in colour, the sky above the former, to a height of about 45°, being lurid, entirely colouring the clouds. Later on in the evening the glow imparted to the edges of the clouds the most remarkable reflections of colour, varying from ochre to yellow, violet, and pink, with shadings of blue. At times the higher-lying clouds formed most remarkable formations. It seemed that the glow was situated between cumulus and cirrus clouds.

ON October 21, at about 5 a.m., a brilliant meteor was observed at Skaadö, on the south-east coast of Norway. It appeared first near the zenith, and describing a circle of about 70°, disappeared in the south-west, about 20° above the horizon. In spite of the sky being covered with clouds, and its being still dark, the country around was lit up as in daylight, objects being clearly discernible at a great distance. As no sound or explosion was heard, it is assumed that the track of the meteor lay in the upper parts of the atmosphere.

SOME Thames trout are being spawned at Sunbury by the Thames Angling Preservation Society, who are doing their utmost to replenish the stock of this fine species of Salmonidæ, which, unhappily, have now become a rarity. The ova will be incubated by the National Fish Culture Association, and the fry will ultimately be deposited in one of the Thames nurseries.

THE Catalogue of the Library of the Royal Society of Tasmania is a considerable volume; and it is a matter of some surprise to find that men of science in this distant colony have

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such an excellent library as this. It embraces every class of literature, and appears especially rich in periodicals, and in works relating to Australasia.

THE last "Circular" of the Johns Hopkins University Library contains a list of the periodicals, including the scientific and literary publications of various societies, regularly received. Although newspapers and official reports are omitted, the list extends over eleven closely-printed columns, and probably contains the name of every periodical in the world in any way connected with science.

AN interesting bi-monthly periodical has just made its appearance in Colombo. It is entitled the *Taprobanian; a Dravidian Journal of Oriental Studies in and around Ceylon in Natural History, Archæology, Philology, History, &c.*," and is edited by Mr. Nevill, F.Z.S., of the Ceylon Civil Service. The first number contains various notes and queries, relating mainly to scientific subjects, and articles on Tamil inscriptions in Ceylon, comments on Ptolemy's geography, on Ceylonese inscriptions in the Asokha dialect, archæological reports on Ceylon (No. 1), and on the Vaedda dialect. The whole of the contents of the thirty-two pages of the first issue is from the pen of the editor, who hopes to make his periodical a storehouse of details, available hereafter for the elaboration of any special subject connected with the Tamil and other Dravidian races. He promises to do his utmost to procure for investigators in Europe, America, or elsewhere, any local information of scientific interest that they may seek. We hope the venture will have the success which the editor's learning and enterprise so well deserve.

WE are glad to notice the re-appearance of the *Orientalist*, another Ceylon periodical, containing articles of much scientific interest, and which has been noticed in NATURE. It ceased publication for some months, but the editor is now publishing double numbers to make up for lost time, which, it is only fair to add, was due to negligence of subscribers, not to that of its learned editor.

THE present number (x. No. 23) of *Excursions et Reconnaissances* of French Cochin China contains the fourth part of M. Landes's article on Annamite tales and legends; but it is mainly occupied with the continuation of M. Tirant's long account of the fishes of Lower Cochin China and Cambodia.

THE inhabitants of Srinagar, Cashmere, have again been thrown into a state of alarm and consternation at the recurrence of earthquake shocks there. The first shock—a severe one—was felt on the night of the 15th inst., and this has been followed by a constant series of slighter ones.

THE last number of *La Nuova Scienzz* contains instructive papers on "Modern Italian Thought," on "Cosmic Evolution," and on the "German Pessimist Philosophy." The first of these papers deals with Prof. G. Sergi's "Origin of Psychic Phenomena" (Milan, 1885), which forms the fortieth volume of the Italian "International Scientific Library," and which contains a useful summary of the arguments of physiologists and psychologists on the genesis and nature of psychic force. Sergi contends that psychis is merely a function, or rather an implement of the body, analagous to the teeth, claws, and other offensive and defensive members. Against this materialistic conception Prof. Caporali, author of the paper in question, and editor of *La Nuova Scienza*, contends that pscyhis is inherent in all forms of matter, from the atom to the highest organisms, and that it is the cause, not the effect, of motion, that is, of all progress and evolution. It is an error to suppose that the organ originates the psychic function, for the function precedes the organ. The lowest organisms, such as the amœbæ, have no differentiated organs, yet they exercise psychic functions, as shown by O. Zacharia in his new work on "Organismen ohne Organe" (1885). Hence, to regard psychis as a mere function of the body, and introduce it later into the fully-developed nervous system as the product of the system, is neither philosophic nor scientific. The article on the German Pessimist school contains biographical notices and short summaries of the teachings of Schopenhauer, Von Hartmann, Geiger, Noiré, and other exponents of that philosophy. The *Nuova Scienza*, which continues to be conducted with remarkable learning and ability, deserves more general recognition than it appears to have yet received in this country.

TELEGRAPHS are extending with extraordinary rapidity over Southern China. At the present moment Pekin in the far north is connected by a direct line through Canton with Lungchow on the frontier of Tonquin, the extension from Canton to the latter place being made during the recent war, purely for military purposes. Thus we have one great line stretching through the Chinese Empire from north to south, and at the present moment an important line is being constructed along the southern borders of China through the provinces of Kwangtung, Kwangsi, and Yunnan. Starting from Nanking in Kwangsi, where it joins the Canton-Lungchow line, it will extend for nearly 600 miles to Mung-lih in South Yunnan, running for half the distance along the Yukiang, the name of the Canton river in its upper course. The work is being carried out by the Chinese themselves with the assistance of one European, and it is stated that during the recent war the Canton authorities equipped a complete field telegraph staff, the members of which were so thoroughly trained that they have been able to put up 35 miles of line in a single day for war purposes. Telegraphs have now secured a firm footing in China, and their extension over the whole country is a matter of time only, aided perhaps by political events. In the great movement towards a centralised Government now progressing in China the telegraph line will play a vital part, for it will utterly destroy the semi-independence of the provincial viceroys, hitherto secure in their remoteness from the seat of government.

THE additions to the Zoological Society's Gardens during the past week include a Green Monkey (*Cercopithecus callitrichus* ♀) from West Africa, presented by Miss Hodgson; a Macaque Monkey (*Macacus cynomolgus* ♂) from India, presented by Mrs. Berens; an Arabian Gazelle (*Gazella arabica* ♀) from Arabia, presented by Mr. John Patton; two Short-headed Phalangers (*Belideus breviceps* ♀ ♀) from Australia, presented by Mr. P. S. Abrahams, F.Z.S.; a Ring-necked Parrakeet (*Palæornis torquatus*) from India, presented by Mrs. Morgan; two Indian Cobras (*Naia tripudians*) from India, presented by Mr. W. G. Burrows; two European Tree Frogs (*Hyla arborea*), European, presented by Mrs. A. Bratton; two Catfish (*Amiurus catus*) from North America, presented by the National Fish Culture Association; two Mule Deer (*Cariacus macrotis* ♀ ♀) from North America, a Triton Cockatoo (*Cacatua triton*) from New Guinea, deposited; two Barbary Wild Sheep (*Ovis tragelaphus* ♂ ♀) from North Africa, four Spotted-billed Ducks (*Anas pœcilorhyncha* ♂ ♂ ♀ ♀) from India, purchased; a Sambur Deer (*Cervus aristotelis* ♀), born in the Gardens.

ASTRONOMICAL PHENOMENA FOR THE WEEK, 1885, *NOVEMBER* 22–28

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on November 22

Sun rises, 7h. 33m.; souths, 11h. 46m. 22·9s.; sets, 16h. 0m.; decl. on meridian, 20° 15′ S.: Sidereal Time at Sunset, 20h. 7m.

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